

**Communicable Disease Epidemiology
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Health Advisory: Microbial Contamination of Mercer Island Water Supply, 2 October 2014

Action requested:

- Be aware that the Washington Department of Health (DOH) has issued a boil-water advisory after two Mercer Island public water system samples tested positive for total coliforms; one was also positive for *E. coli*. The samples were collected on October 1, 2014. A recent boil water advisory was issued when samples tested positive on Sept. 26th, that advisory was lifted on September 29th when repeat samples were negative. The source of the contamination remains under investigation.
- The presences of fecal coliforms and *E. coli* in a drinking water sample indicate fecal contamination and a greater risk that enteric pathogens (e.g. *Salmonella*, *Campylobacter*, *Shigella*, *Cryptosporidium*, *Giardia*, norovirus, etc.) are present. However, the presence of *E. coli* species does not mean that *E. coli* O157:H7 is present, and the risk for O157:H7 illness is low.
- Boiling or disinfecting contaminated drinking water destroys all pathogenic bacteria.
- At this time, we have no indication of increased levels of gastrointestinal illness among Mercer Island residents.
- Healthcare providers should use clinical judgment in determining when patients need to be tested for enteric pathogens and should report cases or clusters of gastrointestinal illness that they suspect are associated with contaminated water to Public Health at 207-296-4774.
- Hand hygiene in health care setting: If hands are not visibly soiled or contaminated with proteinaceous material, use an alcohol-based hand rub 1) before performing invasive procedures; 2) before and after each patient contact; and 3) whenever hand hygiene is indicated. If hands are visibly soiled or contaminated with proteinaceous material, use soap and bottled water for handwashing.

Background

- On September 27, a boil-water advisory was issued by DOH when routine water system samples tested positive for *E. coli*. This advisory was lifted on September 29 when follow-up testing was negative for coliforms, including *E. coli*. Since the advisory was lifted, continued monitoring of the drinking water supply has been done, and samples collected on October 1 were positive for total coliforms and *E. coli*, resulting in a second boil-water advisory being issued today.
- Total coliform bacteria are common in the environment (soil or vegetation) and are generally harmless. If a lab detects only total coliform bacteria in drinking water, the source is probably environmental and fecal contamination is unlikely. *E. coli* is a subgroup of the total coliform group. The presence of *E. coli* in a drinking water sample usually indicates recent fecal contamination and means there is a greater risk that enteric pathogens (e.g. *Salmonella*, *Campylobacter*, *Shigella*, *Cryptosporidium*, etc.) are present. However, it does not indicate the presence of O157:H7, and most *E. coli* bacteria are harmless and exist in the intestines of people and warm-blooded animals.
- Anyone who drinks contaminated water may become ill, but infants, young children, the elderly, and persons with severely compromised immune systems are at increased risk of illness. Symptoms are generally self-limited and include diarrhea, stomach cramps, bloating, gas, fatigue, weight loss, nausea, vomiting, and/or fever. Symptoms may appear as early as a few hours to several days (or weeks for *Giardia*) after infection and may last several days to two weeks or longer.
- Prevention is through boiling water to kill illness-causing organisms.

Resources

- Mercer Island Boil-Water Advisory: <http://www.mercergov.org/News.asp?NewsID=1794>
- EPA microbial water contamination web page: <http://water.epa.gov/lawsregs/rulesregs/sdwa/tcr/basicinformation.cfm>
- CDC web page on boil-water advisories: http://www.cdc.gov/parasites/crypto/health_professionals/bwa/public.html
- Public Health web page: <http://www.kingcounty.gov/healthservices/health/preparedness/disaster/BoilOrder.aspx>
- CDC Guidelines for Environmental Infection Control in Healthcare Facilities (hand hygiene guidance): <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5210a1.htm> (Recommendations, Water, Section III K.)